DOCUMENT RESUME

ED 157 597 95 JC 780 445

TITLE Management Organization Systems Technique; A Management System for Higher Education--The Evaluation Sub-System.
INSTITUTION Wayne County Community Coll., Detroit, Mich.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE Mar 78
NOTE 14p.; For related documents see ED 134 274-275 and JC 780 444, 446-447. Chart may reproduce poorly due to small size of type

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS College Administration; Decision Making; Educational Improvement; Educational Planning; *Evaluation; Evaluation Criteria; *Management Systems; *Objectives; Performance Criteria; *Post Secondary Education; Program Evaluation; Systems Approach
IDENTIFIERS *Management Organization Systems Technique

ABSTRACT

This publication represents the fourth in a six-part series describing the Management Organization Systems Technique (MOST), which was developed at Wayne County Community College to determine the goals and objectives of the college and assist in their attainment and evaluation. The evaluation component, an essential part of the control function of a management structure, begins with data generated and processed in the information sub-system; data should be relevant, usable, and prepared in a format specifically designed for the type of evaluation to be done. These types include evaluation in the following areas: financial, institutional, organizational, instructional, student, and faculty and administrator performance. The output of the evaluation process are the finalized measures of effectiveness and efficiency in reaching goals, and a determination of the causes of deviation of institutional plans. The information is formulated to be of maximum use to management in intelligent re-planning and modification, and in the selection of the optimal alternatives. Evaluation of institutional operations and programs in the MOST system is on-going; along with these normal reporting functions, procedures have been developed for reporting on special projects. (AYC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED157597

Jc 780 445

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Gregory D. Maronick

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Wayne County Community College

Board of Trustees

John K. Grylls
Chairperson

David S. Newman
Vice Chairperson

Loretta M. Moore
Secretary

George Bell
Treasurer

James R. McCartney
Member

Michael E. Murray
Member

Dr. Reginald Wilson
President

Dr. Mostafa M. Afr
Vice President for Finance

Dr. Alphonse Lewis
Vice President for Academic Affairs

Dr. Thelma Jones Vriend
Vice President for Student Services

Dr. William Colovas
Vice President for Administration

This publication, fourth in a series outlining the essential elements of the M.O.S.T. approach, has been financed in part through a federal grant from Title III, H.E.W., Washington, D.C. The opinions expressed are those of the development team and not necessarily those of H.E.W.

©W.C.C.C., March 1978

WAYNE COUNTY COMMUNITY COLLEGE
MANAGEMENT ORGANIZATION SYSTEMS TECHNIQUE
DEVELOPMENTAL TEAM

Reginald Wilson, Ph D., President

Mostafa M. Afr, Ph D., Vice President for Finance

Milan M. Chonich, MBA.
Director, Budget & Management Development

Carmen J. Pascaretti, MBA.
Program Budget Evaluation Systems Coordinator

Steven M. Racine, MBA.
Management Systems Coordinator

Dr. Frederick W. Bertolaet, Associate Dean
School of Education
University of Michigan
Consultant

INTRODUCTION TO
MANAGEMENT ORGANIZATION SYSTEMS TECHNIQUE

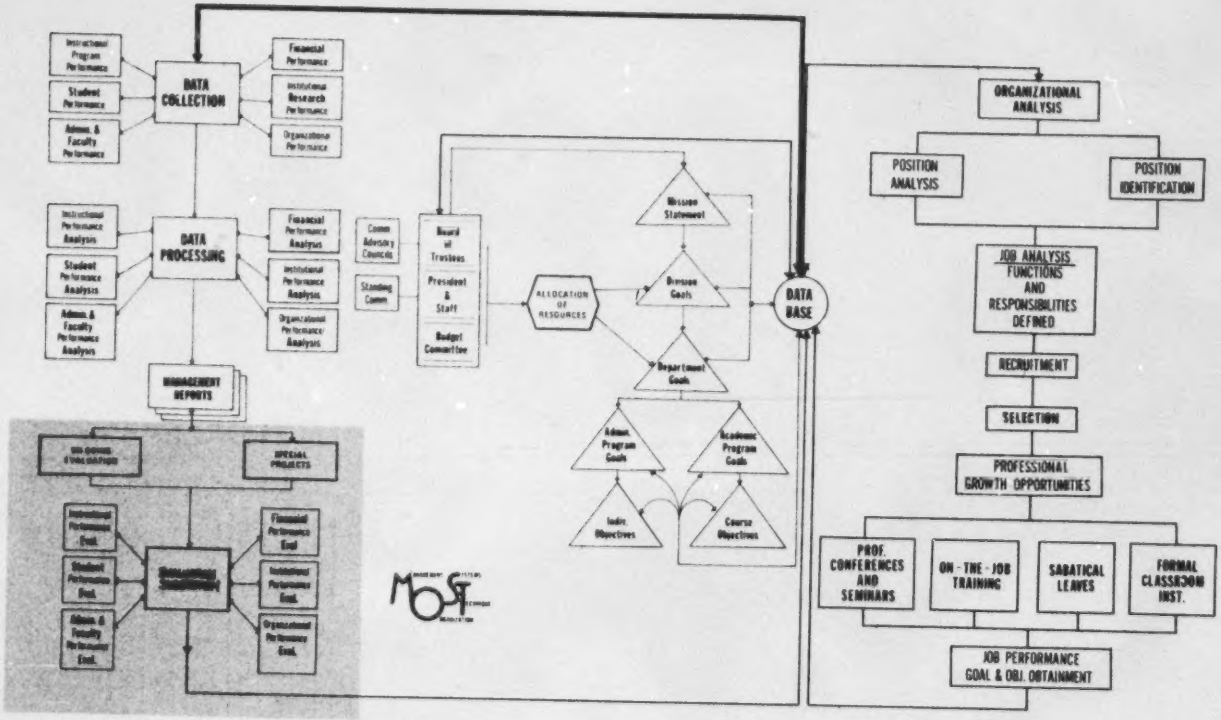
One of the finest achievements during my tenure as chief executive officer of Wayne County Community College has been the recent development within its professional ranks of a comprehensive management program entitled, "Management Organization Systems Technique" (M.O.S.T.).

A prototypical concept in 1971, M.O.S.T. has evolved into a profound far-reaching system which is expected to provide the College's leadership with an excellent opportunity for coordinating the dynamic growth and development of the College, thereby being able to respond quickly and efficiently to the College's needs.

Under the direction of the Board of Trustees, the Vice Presidents and I have strongly supported and encouraged the efforts of the developmental team headed by Dr. Mostafa M. Afr, Vice President for Finance. That team has brought to fruition a comprehensive program yielding educational and service benefits to students, faculty, staff members and the community we have been entrusted to serve.

The five year development of M.O.S.T. has been worthwhile. Through the effective implementation of this management system in the months and years to come, we will be able to meet our responsibilities well, in addition to helping create for the community at large a community college truly responsive to its community's needs.

Dr. Reginald Wilson
President


DATA COLLECTION
DATA PROCESSING
MANAGEMENT REPORTS
SPECIAL PROJECTS
Board of Trustees
President & Staff
Budget Committee
ALLOCATION OF RESOURCES
Mission Statement
Division Goals
Department Goals
DATA BASE
ORGANIZATIONAL ANALYSIS
POSITION ANALYSIS
POSITION IDENTIFICATION
JOB ANALYSIS FUNCTIONS AND RESPONSIBILITIES DEFINED
RECRUITMENT
SELECTION
PROFESSIONAL GROWTH OPPORTUNITIES
PROF. CONFERENCES AND SEMINARS
ON-THE-JOB TRAINING
SABATICAL LEAVES
FORMAL CLASSROOM INST.
JOB PERFORMANCE GOAL & OBJ. OBTAINMENT

INTRODUCTION

This publication has been prepared in order to further delineate the M.O.S.T. plan in operation, outlining as it does the *evaluation process* as an integral function of the total management system.

From a broad institutional perspective, the most important level of evaluation concerns itself with the outputs of the organization. Two types of overall organizational evaluation exist. Each yields measurement of effectiveness and efficiency, which may be defined as follows:

> Effectiveness is the relationship between a responsibility center's outputs and its objectives. The more these outputs contribute to the objectives, the more effective the unit is. . . . Efficiency is the ratio of outputs to inputs, or the amount of output per unit of input.[1]

To evaluate the performance of a college thus requires data from several sources. The objectives must be known in quantifiable terms that lend themselves to measurement. Also, actual output must be determined as it is produced and measured on the same basis as the objective. Thirdly, budgeted and actual inputs must be known. From these data, information can be generated yielding the types of facts required for evaluation to occur.

EVALUATION RELEVANCIES

Other levels of evaluating are generally related to lower level objectives. For instance, the performance of students within a certain section of introductory algebra will not be relevant at the presidential level, but it will be quite valuable for evaluative purposes, for instance, at the dean's level. Likewise, it is essential that each department have its own objectives and measurable results against which analysis may be done and evaluation may occur. Within a large college, many levels and phases of evaluation should be performed concurrently from the same basic data that has been gathered and processed in the data system.

Evaluation is but one step of many within the control function of a management system. According to Hussain, the control function can be considered to consist of the following activities:

---

[1]Robert N. Anthony and Regina E. Herzlinger, *Management Control in Non-Profit Organizations* (Homewood, Ill.: Richard D. Irwin, 1975), p. 19.

1. Sensing and measuring variables to be controlled.
2. Comparing performance values with allowable values to determine deviations.
3. Evaluating deviations.
4. Informing top management of deviations where they go beyond specified levels, i.e., feedback information needed to make necessary adjustments.
5. Designing and implementing procedures for correcting undesirable deviations after they occur.
6. Coordinating and facilitating activities that will reduce undesirable deviation and discourage those that will increase deviation after they occur.
7. Motivating and implementing of activities that promote efficiency and effectiveness.[2]

The evaluation procedure, then, begins with processed data. Analysis of this information proceeds, based upon the dual measures of effectiveness and efficiency, and finally this analysis is fed back to management where corrective action or re-planning can occur.

DATA SYSTEM INPUTS

The inputs for the evaluation system of a college are the information generated and processed in the data system. The types of data gathered must be based upon the needs of decision-makers within the college. These needs should have guided the creation of the information system as well as the product of the evaluation system.

The organization's opportunities, strategy and structure, the management process, its available information sources and the decision-making processes are clearly the most important determinants in the design or evaluation of management information systems. The analysis of these elements of the framework produces:

1. The organization's key success variables.
2. Its objectives.
3. The breakdown of specific tasks.
4. The characteristics of information requirements of different sub-processes of management.

---

[2]Khateeb M. Hussain, *Development of Information Systems for Education* (Englewood Cliffs, N.J.: Prentice Hall, 1973), p. 105.

5. The specific information requirements for functions and individuals.
6. The benefits of influencing the decision-making process.
7. Alternative systems to satisfy requirements.
8. And, finally, the costs of the different systems.[3]

The inputs to the evaluation system must be relevant, useable information, prepared in a format specifically designed for the type of evaluation to be done. Rational evaluation must be based upon proper information. Measurable objectives for the institution as a whole, further refined objectives encompassing departments, programs and courses, actual output measures, and input budgets and utilizations all are required before evaluation can be finalized.

DATA SYSTEM OUTPUTS

The outputs of the evaluation process are the finalized measures of institutional effectiveness and efficiency. These factors are analyzed and causes for deviations from plans are determined. Then this evaluatory information is formulated in such a way that it is of maximum use to management. Finally, it is sent to management as feedback to the planning process. Hussain has stated:

> The achievement of a single output at a point in time is not sufficient for a continuing system. The system must continue to perform according to the objectives and planned performance levels. Deviation beyond allowable tolerances must be detected (sensed) and corrected quickly and effectively. This can be done by a feedback mechanism, which is an essential part of the control function – the comparison of actual with desired performance and the initiation of appropriate corrective action. The feedback mechanism, when properly designed and used, will often anticipate undesirable deviations, triggering corrective actions that will eliminate the courses of such deviations prior to their occurrence.[4]

The function, therefore, of the evaluation system is to provide control and feedback for the planning system. Without the performance of this function, planning is meaningless since the results

---

[3]John Dearden, F. Warren McFarlan, and William M. Zani, ***Managing Computer-Based Information*** (Homewood, Ill.: Richard D. Irwin, 1971), p.20.

[4]Hussain, ***op. cit.***, p. 64.

of planning are not known. A planning system must imply a system for analysis, evaluation and feedback. Recognition of this fact differentiates between effective and ineffective management systems.

EVALUATION AS A SUB-SYSTEM

Evaluation is essential for all the components of management. Not only must planning activity, the organizational setting and staff development be evaluated, the information and evaluation sub-systems themselves must be evaluated. Thus, the concept of analyzing needs and results encompasses the total institution. Planning cannot rationally occur until the results of prior planning are known. Staff development is meaningless, if there are no known outcomes of the developmental activity. Instruction is mere credit hour generation if the only measure of performance is the number of students in each class. Evaluation of every organization is critical. It must not be overlooked simply because it may point out institutional weaknesses. If education is to be a dynamic process, the institution must be aware of its strengths and weaknesses.

MEASURING INSTITUTIONAL PERFORMANCE

The M.O.S.T. system revolves around the planning or decision-making sub-system. The focus of the data and evaluation processes are directed toward providing information to those planners requiring it, and on a timely basis. The evaluation sub-system can be viewed as a feedback device created to aid the college administration in its task of measuring institutional performance as well as providing a control function for operations.

Many authorities on management agree that:

1. The evaluative system should be rooted in the traditions, purposes, and objectives of the college or university.
2. The overall purpose of the evaluative procedure should be to improve the quality of administration, and its basic approach should be positive rather than punitive, as should be the case in faculty evaluation also.
3. Performance should be evaluated against expectations, which requires that job descriptions exist, are current, and are reasonably specific.

4. The procedures for evaluation should employ objective measures as well as subjective ones.

5. Evaluation should be sought from those in a position to make valid judgments.

6. Confidentiality should be maintained throughout, with distribution of results clearly understood and controlled.[5]

Although the above tabulation originally described the evaluation of individuals, the same principles readily may be extended to include the evaluation of systems procedures, departmental effectiveness, or the college as a whole. The major points are that the system be based on college goals and that the approach be positive. The M.O.S.T. evaluation sub-system is primarily concerned with measuring and reporting to management: institutional performance in relation to pre-set objectives; the current conditions within which planning must occur as well as some forecast of future conditions; the performance of the operational processes within the institution.

ONGOING EVALUATION FOCUS

The concept of a systems approach to college management inplies the development of procedures which yield data on formal objectives and actual college performance. M.O.S.T. provides this ongoing process through its commitment to measurable goals. By demanding some form of performance indicators built into the planning process and then creating procedures that trace these indications, a feedback system becomes possible.

The output of the data collection and processing sub-systems of M.O.S.T. are defined as management reports. These are the informational requirements in proper form needed by management to effectively plan or control the system. When these reports are used by the relevant managers to assist them in decision-making or when they take the form of feedback to the decision process, evaluation occurs. These two functions are distinct, yet equally important. Planning demands the evaluation of alternatives prior to deciding on the

---

[5]Richard J. Miller, *Developing Programs for Faculty Evaluation* (New York: Jossey-Bass, 1974), p. 77.

optimal one, and it requires evaluation of the actual results of the decision so that intelligent re-planning or modifying can occur.

The input required for effective planning has been outlined in the section on the planning sub-system of M.O.S.T. It was found that, before any strategy selection may be made, at least three different processes must take place. These are:

1. An examination of the environment:
   a. Environmental conditions.
   b. Determination of needs.
   c. Identification of resources.
   d. Forecasting model.

2. Development of strategic alternatives:
   a. Diverse inputs.
   b. Based on data and projection.

3. Itemization of constraints:
   a. Environmental.
   b. Resources.
   c. Forecasts.

The inputs of the planning process will correspond to meeting one of the above needs, or will be a special report as discussed below. The output of the data system, insofar as planning is concerned, becomes input to some other system. On the other hand, the outputs of the planning or staff development systems will become inputs to the data system. The purpose of the data system as a whole is to process raw data into informational reports that can be used efficiently and effectively to maximize the prioritized output of the college as a whole. The evaluation sub-system can best be described as the utilization of information for the purposes intended.

By using information derived from operations, one achieves control over them. One such example is the budgeting and accounting functions. Proper information derived from these processes provides control over college expenditures. Other aspects of control provided by M.O.S.T. occur throughout the range of various departmental procedures, such as registration procedures and admission procedures.

One authority in the field gives the following example of operational information:

> Operational information is the factual reporting of the daily operations. In education, most of this information is seasonal, with peaking at times of registration and grading. Examples of such operational information are listings of classes offered, class listings of students registered, grade reports, listings of students admitted and their ACT scores, faculty listings, and so on. During the remaining part of the semester, examples of operational information needed are reports on rooms and faculty available for purposes of scheduling; lists of faculty with their teaching loads; lists of students with their addresses, courses being taken, and other basis data for each student; and accounting data on transactions related to salaries and departmental expenditures.[6]

The mere reporting of lists, accounts, etc., is meaningless without a purpose. The purpose of providing this information to management is for evaluation of the operation and for future planning. Thus, it must be remembered that producing a report is not an objective in itself. The true objective is the function which this report will serve.

[6]Hussain, *op. cit.*, p.108.

SPECIAL PROJECT EVALUATION

Many informational needs are not current. Long-range facility planning, initial program analysis, and capital budgeting are examples of decisions that do not require ongoing data generation processes. However, they do require evaluative input as well as a procedure for monitoring their outcomes. The M.O.S.T. system creates, along with its normal reporting function, procedures for developing special reports.

It is in this phase of the information-generating process that most of the manual processing and evaluative techniques will play their part. The analysis of a capital building program, for instance, will require input from many sources not typically tapped by the information system. The processing of these data and the reports supplied to management for evaluation purposes may demand specialists in contracting and others. It must not be assumed that the information required will be supplied automatically. M.O.S.T. demands that procedures for planning even special projects be laid out prior to initiation of the project plans.

BIBLIOGRAPHY

Ackoff, Russell, *"Management Misinformation Systems,"* Management Science, 26 (December, 1967).

Afr, Mostafa M. *"An Exemplary System: Management Organization Systems Technique."* (Ann Arbor, Michigan, May 1976.)

Anthony, Robert N., *Planning and Control Systems* (Cambridge, Mass.: Harvard University Press, 1965).

Anthony, Robert N. and Herzlinger, Regina, *"Management Control in Nonprofit Organizations,"* (Homewood, Ill.: Richard D. Irwin, Inc., 1975).

Apple, Michael W., Subkoviak, Michael J. and Lufler, Henry S., Jr. *"Educational Evaluation: Analysis and Responsibility,"* (Berkeley, Calif.: McCutchan Publishing Corp., 1974).

Crowley, W. J., *"Can We Integrate Systems Without Integrating Management?"* The Computer Sampler, edited by James Boore and Jerry Murphy (New York: McGraw-Hill, 1968).

Dearden, John, McFarlan, F. Warren, and Zani, William M., *Managing Computer-Based Information* (Homewood, Ill.: Richard D. Irwin, 1971).

Hussain, Khateeb M., Development *of Information Systems for Education* (Englewood Cliffs, N.J.: Prentice Hall, 1973).

Johnson, Kast and Rosenzweig, *The Theory and Management of Systems* (New York: McGraw-Hill, 1967).

Johnson, R.A., et al, *The Theory and Management of Systems* (New York: McGraw-Hill, 1967).

Kornfeld, Leo L., Farris, Robert G. and Olson, David N., *"Simulation Models: Technique for Juggling the What Ifs,"* Journal of Education Data Processing, Vol. 53 (November, 1972).

Lahti, Robert E., *Innovative College Management* (San Francisco, Calif.: Jossey-Bass, 1973).

Miller, Richard J., *Developing Programs for Faculty Evaluation* (New York: Jossey-Bass, 1974).

Randolph and Burgly, *Systems and Procedures for Business Data Processing* (Cincinnati: Southwestern Publishing Corporation, 1968).

Silvern, Leonard C., *"Systems Engineering of Education V: Quantitative Concepts for Education Systems,"* (Los Angeles, Calif.: Education and Training Consultants Co., 1972).

Stufflebeam, Foley, Gephart, Guba, Hammond, Merriman, Provus, *"Educational Evaluation Decision Making,"* (Itasca, Ill.: F. E. Peacock Publishers, Inc., 1972).

MANAGEMENT SYSTEMS
MOST TECHNIQUE
ORGANIZATION